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Instructional Design Model and Strategy Comparison

**Differences and similarities between instruction strategies and instructional design models**

Instructional design models are a systematic framework for organizing a lesson by considering the goals, objectives, delivery, and needs of the learners. By comparison, an instructional strategy is a way of ensuring that the delivery of the lesson meets student learning needs. Both the design model and the instructional strategy are essential to student learning.

According to Gagne (2005), instructional strategies are tools or techniques available to educators to enhance delivery of a lesson. Instructional strategies are a specific tool to use within the framework of the instructional design model. Identifying learner characteristics and needs is essential when implementing effective instructional strategies in the classroom. Instructional design models universally include certain components such as analysis, design, development, implementation, and evaluation. The basic structure of an instructional design model is the ADDIE model of instructional design. The driving purpose for any instructional design model is to ask, “For what problem is instruction the solution?”

**Differences and similarities between two instructional design models**

The two different types of instructional design models examined in this paper are Dick and Carey’s Instructional Design Model (1990) and Understanding By Design (CITE). Both instructional models begin by identifying the instructional goals or problem that will be addressed in the lesson. These instructional models follow a series of stages or events that culminate in an evaluation of whether the lesson reached the desired goals and the effectiveness of the model used. The basis for most instructional models, ADDIE, is represented throughout models and will be examined later in Figure 1.

Despite many structural similarities, differences between the two models may affect each one’s usefulness for a specific situation. Dick and Carey’s model contains a revision stage early on in the steps after conducting your instructional analysis and before implementation. In the Understanding by Design model, evaluation occurs fluidly throughout the evaluation and the planning stage, whereas in Dick and Carey’s model evaluation happens at the end of the plan and leads back to identifying entry behaviors. The elements of both models can be evaluated in terms of ADDIE.

Figure 1

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|  | http://mscofino.edublogs.org/files/2006/12/theibodesigncycle.jpgUnderstanding by Design (CITE) | dickcarey |
| A | Understanding by Design (UBD) incorporates many aspects of the ADDIE model. The analysis stage of the ADDIE model is represented in UBD in the Investigate stage. | Dick and Carey’s incorporates many aspects of ADDIE as well. The analysis stage of ADDIE is represented by Identifying Instructional Goals and Conduction Instructional Analysis in Dick and Carey’s model. |
| D | Formulate a design specification and design a product/ solution to solve your problem when using UBD. | Design is embodied in writing performance objectives. |
| D | Development of the plan involves planning and using appropriate techniques and equipment in UBD. | Development exists within the Develop and Select Instructional Material Stage. |
| I | Implementation follows UBD’s model of following the plan and creating the product/solution during the Create stage of the UBD cycle. | Implementation occurs when the user Develops and Conducts Informative Evaluation. |
| E | Evaluation occurs when evaluating the product solution and the use of the design cycle. | Evaluation begins during implementation and continues through the Develop and Conduct Summative Evaluation Stage. |

**Differences and similarities between instruction strategies**

The following paragraphs will examine the differences and similarities between Discovery Learning Loop strategy and Inquiry-Based Learning strategy. Both of these strategies begin with observing and contain a reflection piece. In each strategy components are physical and mental. Physical components include observation and experimentation. Mental aspects include reflection and questioning. Both of these strategies are also project based and may be more beneficial in the sciences.

Examining these strategies uncovers important differences. Inquiry-Based Learning is more systematic similar to the scientific process. The Discovery Learning Loop is a fluid, learner-driven cycle in which learners can move from stage to stage as needed, offering flexibility. The role of the teacher is less apparent in the Discovery Learning Model, where the teacher serves as a guide in the learning process. The role of the teacher in Inquiry-Based Learning takes on many different roles such as model, facilitator, coach, and tutor.

**Comparing Discovery Learning and Inquiry-Based Learning to Various Criteria**

Figure 2

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|  | Discovery Learning  image004 | Inquiry-Based Learning  http://www.inquirylearn.com/inquirydiagram.jpg |
| Relative “student-centeredness” | The Discovery Learning model is primarily student driven. The teacher serves as a guide for student self discovery. Students choose the topic and method of discovery. | Inquiry-Based Learning is driven by student questions and experiment designs. It includes a personal application component where students apply understanding to real life. |
| Assessment | Summative assessment can occur during the reflection stage and formative assessment is likely to be present during the experiment stage. | Assessment occurs throughout the entire model, particularly the reflection and application stages of the cycle. |
| 21st Century Fluencies | Discovery learning is a relatively current strategy that involves student choice. It is useful for use in current subjects and problems encountered in the sciences | Most recent science curricula incorporates Inquiry-Based Learning. Inquiry is thought to promote critical thinking which is a high priority in current state standards. |
| Ease of Use | This strategy requires a wide variety of subject options and materials for students to use as well as flexible assessment and instruction. Discovery Learning entails prior planning to ensure lesson objectives are met. | Once students are accustomed to the process, Inquiry-Based Learning can be used for a wide variety of lessons. A large amount of materials and space may be needed for experiments. |

**Summary of Instructional Design Model and Strategy Comparison**

In conclusion, all instructional designs models can be beneficial for instructional purposes, however following the basic ADDIE model will allow a teacher to use all five essential components of instructional design. Research suggests that every instructional model has these five important aspects of ADDIE: Analysis, Design, Development, Implementation, and Evaluation. On the other hand, selecting a strategy depends on the lesson’s objective. For example, when teaching second graders about rocks, the Discovery Learning model would be useful for having students discover the characteristics of four different rocks. Using a spectrum of different strategies will lead to more effective instruction.

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